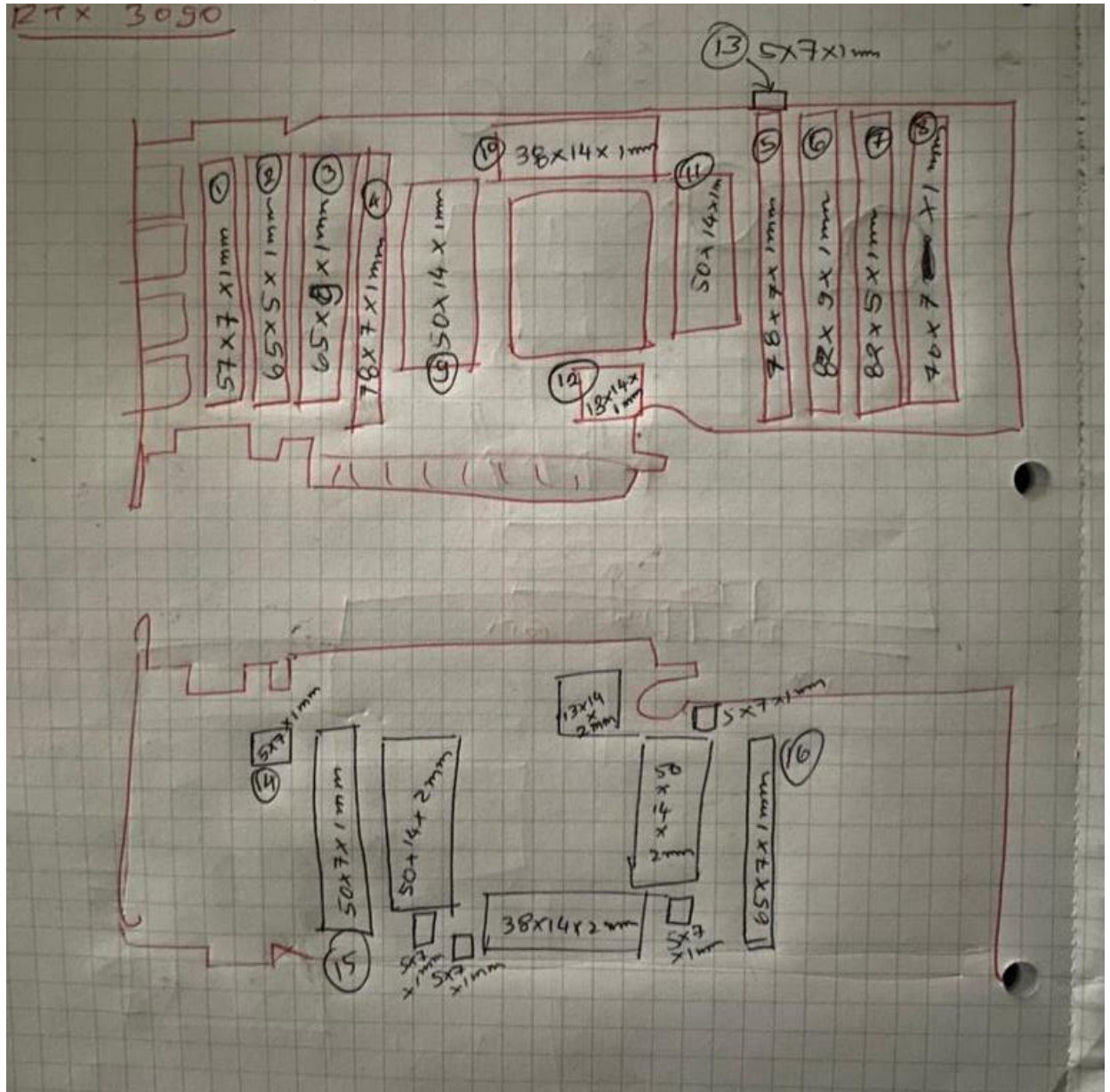


## GIGABYTE RTX 3090 TURBO 24G THERMAL PAD REPLACEMENT METHOD OF STATEMENT

USED THERMAL PAD : GELID GP-ULTIMATE 12W/mK  
FRONT : 1MM THICKNESS  
BACK : 2MM & 1MM  
CPU THERMAL PASTE : THERMAL GRIZZLY KRYONAUT 12W/Mk

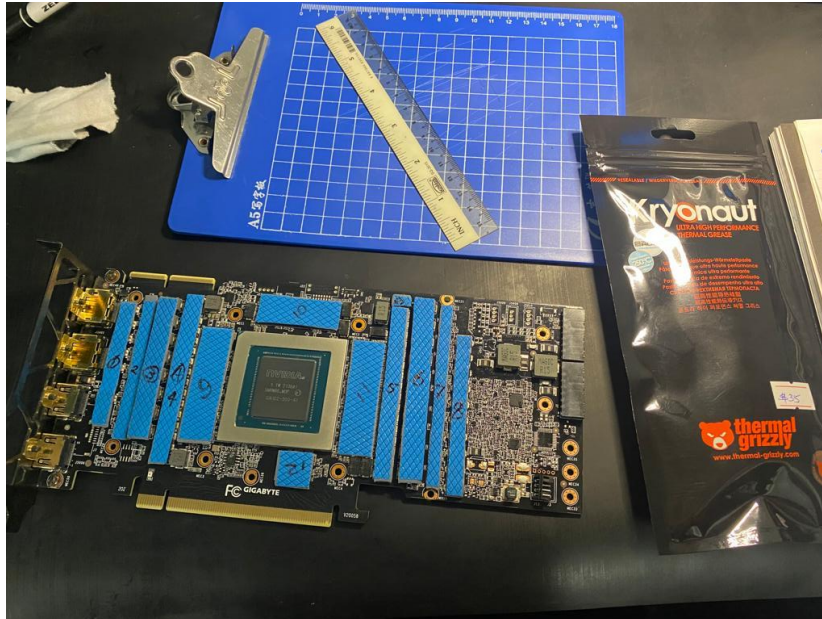
**STEP 1:** PREPARE THE DRAWING OF THE CARD TO INDICATE THE SIZES OF THE PADS  
TOP DIAGRAM IS FOR FRONT, BOTTOM DIAGRAM IS FOR BACK



**STEP 2:** CUT THE PADS AS ACCURATE TO THE DIMENSIONS ABOVE AS POSSIBLE USING NEW PEN KNIFE

**STEP 3:** CLEAN THE GPU BOARD WITH ZIPPO FLUID. (ANY OTHER BETTTER ISOPROPYL ALCOHOL ALSO OK

**STEP 4:** PASTE THE PADS ON THE MODULE AS SHOWN IN THE BELOW PHOTO. PEEL OFF THE HARDER SIDE FILM ON THE THERMAL PAD & PASTE ON THE CLEANED CARD. TRY TO WIPE ON TOP OF THE PASTED PADS WITH A VERY SLIGHT PRESS BY YOUR FINGERS TO ENSURE THERE ARE NO WOBBLES OR GAPS. I USED TWEEZER TO PEEL OFF THE FILM ON THE PADS.



**STEP 5:** PUT A VERY TINY DOT OF THERMAL PASTE ON THE MIDDLE OF GPU AND TRY TO PUT THE PCB BOARD ON THE HEATSINK. OPEN IT AGAIN AND CHECK IF THE PASTE IS GETTING STICK WITH THE HEAT SINK. (DO NOT REMOVE THE PROTECTIVE FILM ON THE PADS YET). THE PASTE MUST STICK. BY THIS STEP YOU CAN ENSURE THAT THERE WON'T BE ANY HOTSPOT TEMPERATURE PROBLEM ON THE GPU PROCESSOR AFTER FINAL-ASSEMBLING OF CARD BACK.

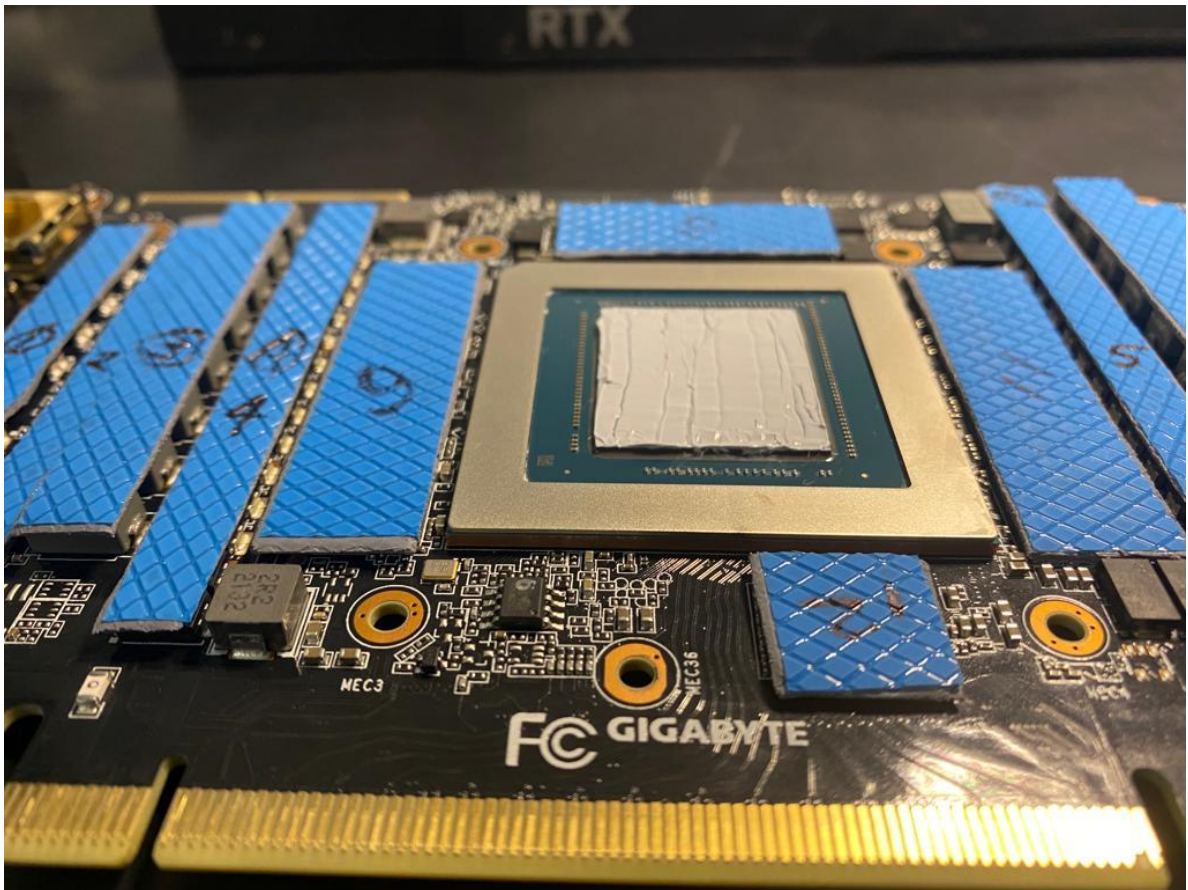
BELOW PHOTO ONCE THE HEATSINK IS OPENED BACK. YOU CAN SEE A TINY SPOT OF PASTE AT THE CENTER.







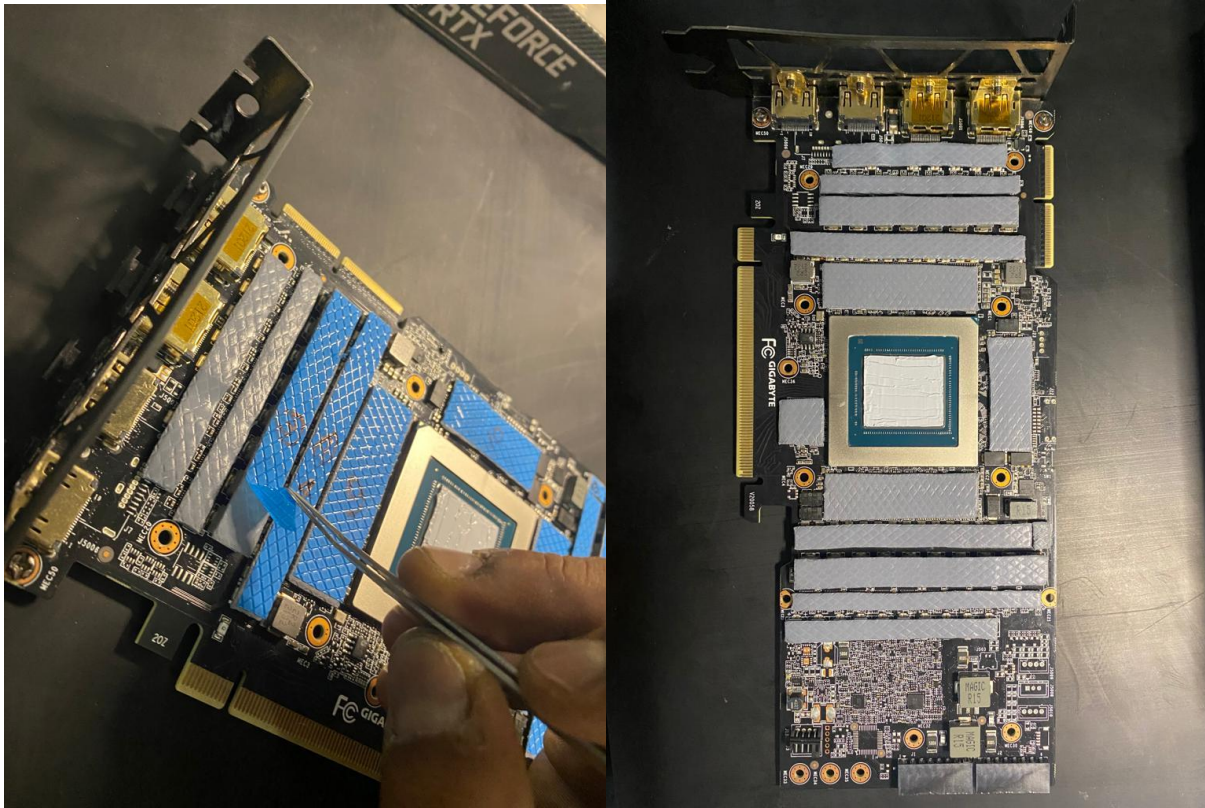
**STEP 6:** CLEAN THE SURFACES OF THE GPU PROCESSOR AND START TO APPLY THERMAL GRIZZLY KRYONAUT AS PER THE INSTRUCTION PROVIDED WITH THE PASTE. REFER PHOTO BELOW.



**STEP 7:** CLEAN THE SURFACE OF THE HEATSINK THOROUGHLY.



**STEP 8:** PEEL OFF THE PROTECTIVE FILM OF THE PADS USING THE TWEEZER.



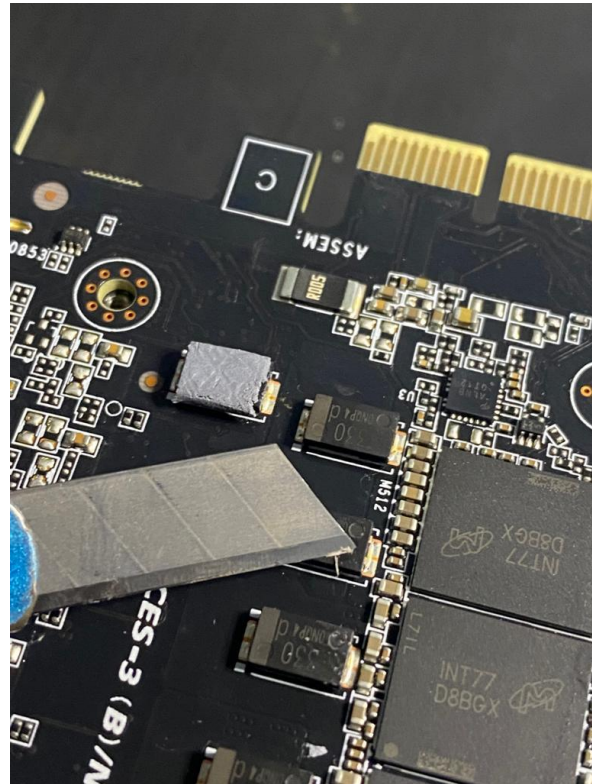
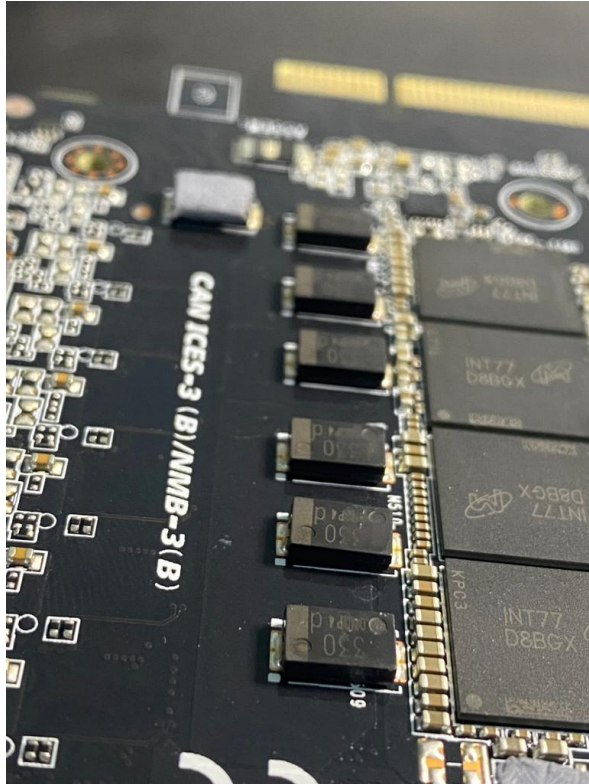
*NOTE: IN THE PHOTO AT RIGHT SIDE, AFTER THOROUGH CHECKS ON THE TYPES OF MOST OF THE SEMICONDUCTOR COMPONENTS ON THE BOARD, ALL THE REQUIRED COMPONENTS/ SEMICONDUCTORS HAD BEEN APPLIED WITH THERMAL PADS TO ENSURE THE LONGEST LIFESPAN OF THE CARD. THE REST OF THE COMPONENTS ADJACENT TO THE PADDED AREAS ARE NOT REQUIRED TO BE APPLIED WITH THERMAL PADS. DO NOT APPLY ON THE REST OF THE COMPONENTS TO AVOID ANY UNNECESSARY GAPS OCCURRING TO THE MAJOR COMPONENTS (MICRON CHIPS AND OTHER SUPPORTING BUFFER ICs NEARBY)*

**STEP 9:** ASSEMBLE BACK THE HEATSINK. DO NOT FORGET TO CONNECT THE TURBOFAN CABLE CONNECTOR TO THE PCB.

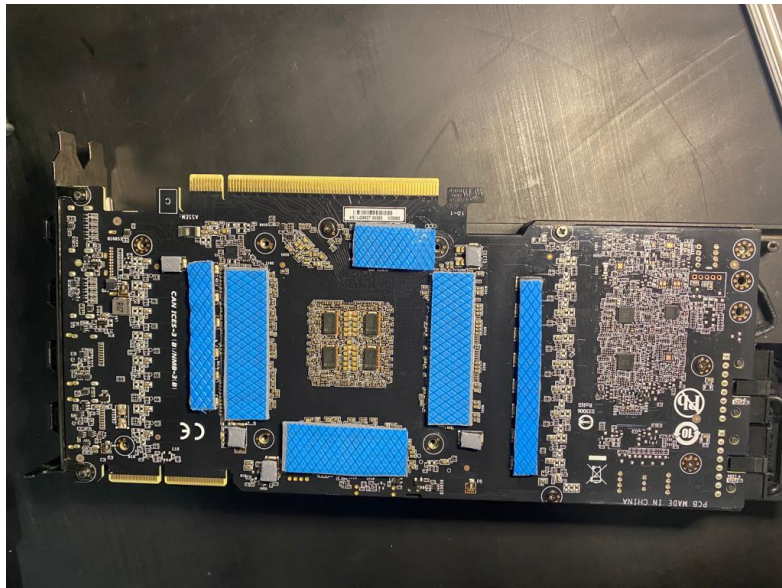


**STEP 10:** ONLY INSTALL THE INTERNAL MOUNTING SCREWS (SMALLER TYPE) TO MOUNT THE MOUNT ROUGHLY TO THE HEATSINK, NOT THE SPRING-LOADED GPU SCREWS. YOU MAY SCREW THEM AS WELL FOR THE GPU PROCESSOR ALIGNMENT PURPOSE, BUT DO NOT TIGHT THEM SINCE YOU HAVE TO OPEN THEM AGAIN WHEN INSTALLING THE BACKPLATE AT LAST.

**STEP 11:** (ONLY FOR THOSE WHO CAN FIND SIMILAR SCENARIO IN THEIR BOARDS AS PER BELOW)  
IF I AM NOT WRONG, MOST OF THE BOARDS WOULD BE SEEN WITH THE SLACK (FROM THE FACTORY THERMAL PADS) MELTED AND HARDNED ON THE SURFACE OF THE CHIPS. IF FOUND SO, PLEASE USE THE PEN KNIFE TO REMOVE THE HARDENED SLACK. ITS PERFECTLY NORMAL TO SLOWLY SCRATCH THE SURFACE BUT NOT TOO HARD.

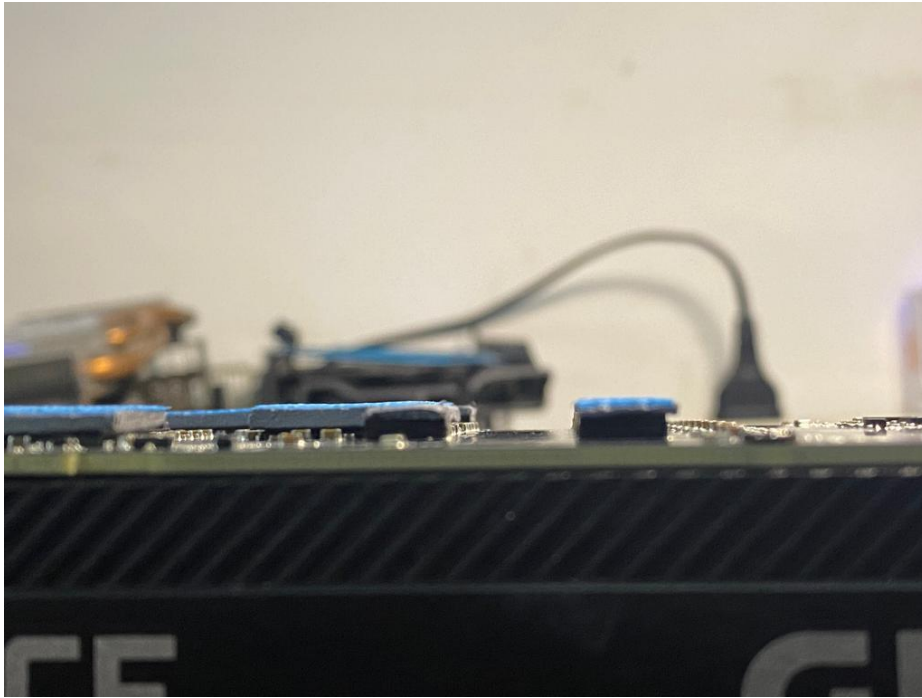


**STEP 12:** CLEAN THE SURFACE & INSTALL THE PADS ON THE BACK AS WELL.



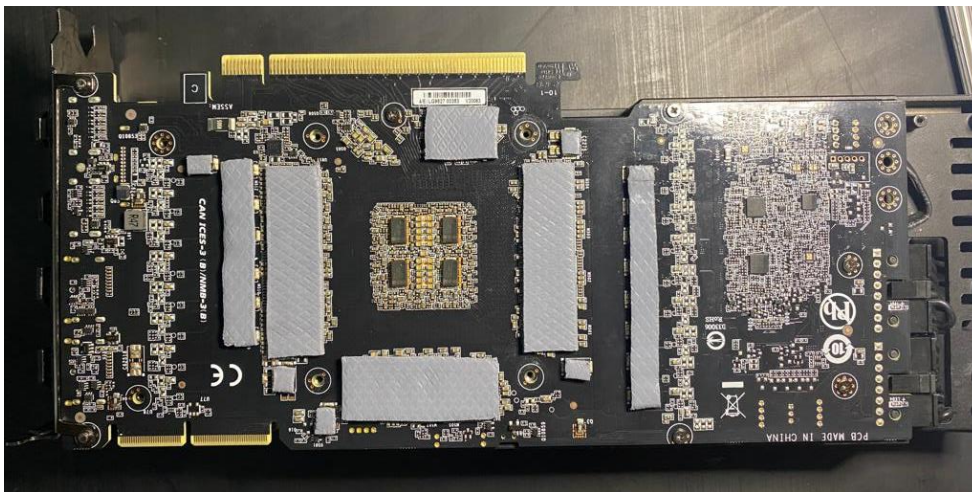


**STEP 13:** ENSURE YOU HAVE THE “ALMOST-FLAT” SURFACE AT THE BACK ON THE LEVEL OF THE MAJOR COMPONENTS.



**STEP 14:** DO NOT APPLY ANY PADS AT THE GPU PROCESSOR BACK. IT IS NOT GOOD TO APPLY BECAUSE, BY DOING SO, THE HEAT GENERATED FROM THE GPU PROCESOR ITSELF CAN PASS-THROUGH TO THE BACK PLATE, BUT UNABLE TO BE DISSIPATED EFFICIENTLY THAN ITS BEING DONE BY THE ACTUAL HEATSINK ON FRONT. AT THE BACK, MEMORIES CAN BE INSTALLED BECAUSE THE CHIPES AT THE FRONT AND BACK ARE DIFFERENT SOLDERINGS.

**STEP 15:** PEEL OFF THE PROTECTIVE FILM OF THE PADS BY THE TWEEZERS. TRY NOT TO TOUCH THE EXPOSED PADS BY BARE HAND. PLEASE TAKE NOTE ON THE 4 NOS OF TINY PADS AS WELL. REFER THE DIAGRAM AT THE FRONT FOR THE ACCURATE DETAILS SINCE ONE OF THE TINY PADS SHOWNIN BELOW IS ACTUALLY NOT REQUIRED. BUT ITS OK IF YOU WANT TO FOLLOW. 2MM PADS ARE THE CORRECT SIZE. IF YOUR BOARD CAN BE INSTALLED WITH 1.5MM IS ALSO ACCEPTABLE. BUT PLEASE DO NOT GO FOR 3MM PADS. ITS USELESS AND YOU CAN'T EVEN TIGHT THE BACKPLATE PROPERLY. IT WOULD BENT.



**STEP 16:** ASSEMBLE BACK THE UNIT CAREFULLY.

**STEP 17:** I HAD INSTALLED AN ADDITIONAL COOLER AT THE BACKPLATE, USING A HEATSINK AND FAN FROM MY OLD GPU FOR ADDITIONAL COOLING. WITHOUT THIS ALSO ITS FINE. IF YOU CAN FIND ONE, IT REALLY HELPS TO DISSIPATE THE HEAT AT THE BACKPLATE. I POWERED THIS COOLER WITH THE SEPARATE POWER SUPPLY CABLES, RUNNING AT ITS FULL SPEED. THE ADDITIONAL BACKPLATE HEATSINK I USED HAD 4 HEAT PIPES. I ALSO APPLIED 1MM THERMAL PADS BETWEEN THE BASE OF THE HEATSINK AND THE OUTER SIDE OF THE BACKPLATE.



**STEP 18: TESTING**

BEFORE THE REPLACEMENT OF ABOVE, THE GPU TEMP WAS 55-56 DEGREE CELSIUS, MEMORY JUNCTION AT 102 DEGREE CELSIUS, FAN RUNNING AT 100%, POWER LIMIT AT 80%, THE CARD GETS PIPING HOT. WITH NICEHASH, IT WAS 94MH/S WITH UNSTABLE THERMAL THROTTLING.

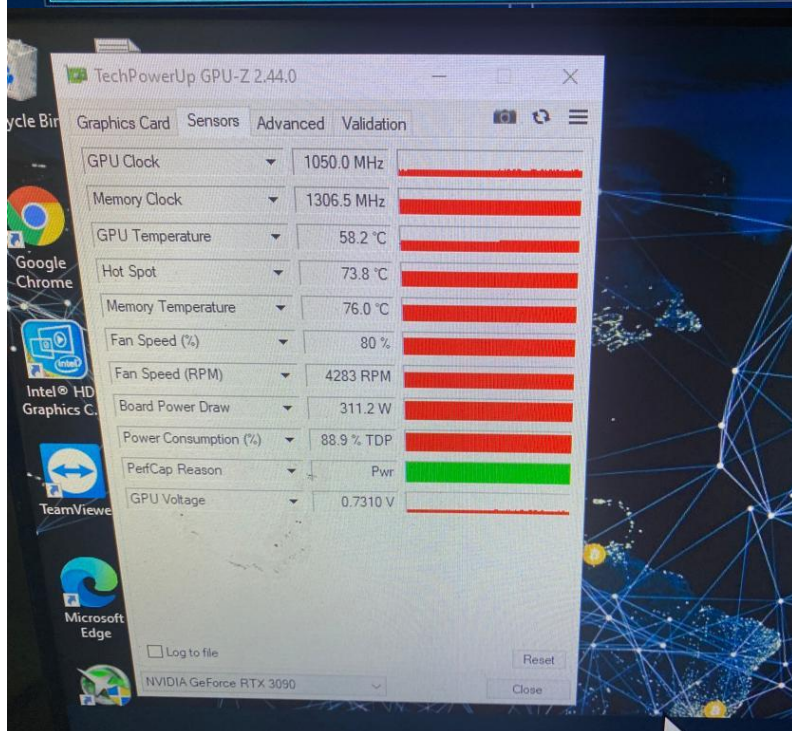
AFTER I INSTALL THE THERMAL PADS,

I USED MSI AFTERBURNER SETTINGS AS PER BELOW:

CORE CLOCK	: (-)300MHz
POWER LIMIT	: 89%
MEMORY CLOCK	: (+)950MHz
FAN SPEED	: 75~80%
GPU TEMP	: 58~60 DEGREE CELSIUS (FROM NIGHT TIME THROUGH DAY TIME@SINGAPORE)
MEMORY JUNCTION TEMP	: 76~78 DEGREE CELSIUS.

WITH NICEHASH, I AM GETTING 117MH/S~119MH/S.

\*THESE ARE MY REFERENCE VALUES. YOU MAY TRY TO FINETUNE TO GET EVEN BETTER RESULTS. REFER BELOW FOR SCREENSHOTS.



THE RESULTS WERE FANTASTIC AFTER FEW TIMES OF TRIES WITH OTHER AFTERMARKET THERMAL PADS & OTHER GPU HEAT COMOUND.

IF YOUR WORKMANSHIP IS GOOD AND WITH PATIENCE, THE TOP-OF-THE LINE GPU CAN BE PROPERLY REPAIRED FOR THERMAL ISSUES.

I HOPE ABOVE WOULD BE HELPFUL FOR MINERS & GAMERS.

IF YOU NEED ANY HELP ON THIS MATTER, FEEL FREE TO CONTACT ME.

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